

BUILDING BLOCK ELEMENT

BACKGROUND OF THE INVENTION

1. Field of the Invention

5 The present invention relates to a building block element for coupling to form different shapes of structure that has a pair of long sides and short sides with a length at multiple times of the thickness and has slots of different shapes formed at different locations of the long sides and short sides to be coupled to form building blocks of different shapes.

2. Description of the Prior Art

10 Building blocks or toy bricks are playing toys for training spatial concept. They generally include a plurality of elements of the same shape or different shapes to be arranged or stacked to form a three dimensional structure of varying shapes. Different players might produce amazing results. It is an educational and valuable game.

15 Conventional building blocks usually consist of individual elements. Each of the elements generally has a male latch on one side and a female latch on an opposite side. The male latch and the female latch of different elements may be coupled to form a bigger body. Some building block elements have asymmetrical shapes, and some elements have symmetrical shapes with selective coupling locations so that different structures may be
20 constructed through variations of the coupling locations. Conventional building blocks also may have a plurality of different shapes of elements. Thereby a rich combination may be accomplished to increase amusements and fun.

25 As previously discussed, the conventional building block elements,

whether having a single shape or different shapes, generally are coupled and stacked through the male and female latches formed the surfaces. Namely, one element is coupled on the surface of another element. Hence they can only be built in the directions of height, width and depth to form a desired shape. Moreover, due to the male and female latches of the conventional building block elements are jutting or indentation structures formed on the surface, the stacking foundation is on the surface of each element. The resulting shape of the structure tends to be rigid.

SUMMARY OF THE INVENTION

In view of the aforesaid disadvantages, the present invention aims to provide an improved building block element to overcome the rigid stacking models built by extension of the surface of the elements that restrict player's imagination and organization ability.

The improved building block element provided by the invention has a pair of long sides and short sides, and a suitable thickness. The long side and short side have a length at a multiple times of the thickness. The long side, short side and thickness are normal to one another. Based on this fundamental shape, at least one carved out slot may be formed in the center or desired locations of the element. Or at least one indented opening or notch may be formed on the long sides or short sides. Thereby a series of building block elements of different shapes may be formed through the slots and notches. The length and width of the slot and notch also have a length being multiple times of the thickness so that other building block elements may pass through the slot or notch through the thickness side. Moreover, since the long side of the slot or notch has a length which is multiple times of the thickness, the thickness becomes the dimension basis of the shape of all elements. Thus every individual building block element has suitable latch

locations for coupling with one another.

In short, the building block element according to the invention has the following features: a series of elements of different shapes may be provided, able to expand and challenge player's imagination, and may be stacked to
5 form a wide variety of structures and shapes. In addition, the elements may pass through the slot and notch of each other to form versatile spatial depth. All this surpasses the design of the conventional building blocks and offers a significant improvement.

The foregoing, as well as additional objects, features and advantages of
10 the invention will be more readily apparent from the following detailed description, which proceeds with reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIGS. 1- 3 are perspective views of the embodiments of the invention.

15 FIGS. 4- 30 are front views of various embodiments of the invention.

FIGS. 31 and 32 are perspective views of the invention after coupled.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Refer to FIGS. 1 and 28 for a first embodiment of the invention. The
20 building block element 100 according to the invention has a thickness T and a pair of long sides L and a pair of short sides W. The long sides L and the short sides W are normal to each other. Any one of the long sides L and short sides W also is normal to the adjacent thickness T. The long side L and short side W has a length which is at least one or a multiple times of the
25 thickness T. The element 100 body may has a carved out slot 1002 which has a short side S at a length same as the thickness T.

Refer to FIGS. 2 and 9 for a second embodiment of the invention. The building block element 101 is derived from variation of the building block element 100 set forth above. Its body has a slot 1012. One of the long sides has a notch 1014 formed in the center thereof running to the slot 1012. The notch 1014 has a width at least one or multiple times of the thickness T. The notch 1014 may also be located not in the center such as the notch 1051 of the building block element 105 shown in FIG. 10 that is on one of the long sides closed to a short side.

Refer to FIGS. 3 and 15 for a third embodiment of the invention. The building block element 107 has a slot 1072 and a strut 1074 corresponding to the slot 1072. The slot 1072 and the strut 1074 have a short side which has a width same as the thickness of the building block element 107. The long sides of the slot 1072 and strut 1074 is multiple times of the thickness of the building block element 107. Referring to FIG. 16, the building block element 109 is substantially like the element 107 but with the slot 1092 running through one short side.

Refer to FIGS. 4 through 30 for other embodiments. The slot on the element body may be more than one and spaced from each other, as shown in FIGS. 4 and 23, in which the building block elements 111 and 113 have slots 1112 and 1132, and the long sides of the slots always equal to or is multiple times of the element thickness, while the short sides equal to the element thickness. The building block element of the invention may also have notches on a long side, such as the elements 115, 117 and 119 shown in FIGS. 14, 18 and 20. The notches may also be formed on two long sides of the building block element, such as elements 121, 123 and 125 shown in FIGS. 17, 19 and 22. The building block element of the invention may also has a width based on the thickness to form a strut rack manner, such as the elements 127, 129, 131, 133, 135, 137, 139, 141, 143, 145, 147, 149 and 151 shown in FIGS. 5 to 8, 10 to 13, 24 to 27, 29 and 30. Of course, the strut

rack type building block element may be seen as the building block element 100 having notches formed on the long side and short side. FIG. 21 shows yet another strut rack type building block element 153.

5 By means of the building block elements set forth above, a plurality of individual elements of the same shape or different shapes may be stacked or interlocked with one another as desired. The resulting shape may consist of elements of the same shape (as shown in FIG. 31) or elements of different shapes (as shown in FIG. 32). Thus it is more fun to build and assemble, and a wide variety of structures and shapes may be built.

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